What is claimed is:

1. A system for aiding a user with a visual impairment or visual obstruction, comprising:

    means for sensing time/space characteristics and physical characteristics information about an object in a field of view;

    means for interpreting said time/space characteristics and physical characteristics information and for characterizing (recognition) the object; and

    audible information delivery device (Means for communicating) for audibly describing to the user the characterization of the object and said interpretation about the object.

2. The system according to claim 1, wherein said means for sensing further comprises devices selected from the group consisting of: CCD sensors, laser imaging sensors, radar sensors, electromagnetic radiation sensors.

3. The system according to claim 1, wherein said time/space characteristics and physical characteristics information about an object includes any of: physical dimensions, general shape description, texture, color, the distance and position of said user from said object, motion of said object, spatial relationships between objects.

4. The system according to claim 1, wherein said means for interpreting said time/space and physical characteristics information comprises: a sensors processor, a control unit, and an Object Synthesis and recognition system.

5. The system according to claim 1, wherein said characterizing(recognition) is performed by a World Model.

6. The system according to claim 5, further comprising means for correcting and learning when said recognition by said World Model fails.

7. The system according to claim 5, wherein said learning process by a World Model enrichment learning process comprises:

    direct teaching.

    generalization teaching; and

    refinement teaching.

8. The system according to claim 1, wherein said audible information delivery device includes a text to speech translator, and headphones or a speaker.

9. The system according to claim 5, wherein CCD data derived from an object identified as belonging to the object class of signs is processed by OCR software.

10. Apparatus for aiding in obstacles avoidence , comprising:

at least one electro-optical device to detect and identify said at least one object;

a processing unit, which receives and processes information from said devices; and

a user communication module to receive instructions from said processing unit for the purpose of audibly describing to said person said at least one object in said field of vision, thereby enabling said person to cope with and proceed in said surroundings.

11. The apparatus according to claim 10, wherein at least one of said at least one electro-optical device is a computerized vision device.

12. The apparatus according to claim 11, wherein at least one of said at least one computerized vision device is a CCD sensor.

13. The apparatus according to claim 10, wherein said at least one electro-optical device is a laser imaging sensor.

14. The control unit according to claim 10, wherein said processed information further comprises images.

15. The processed information according to claim 14, further comprising image understanding.

16. The apparatus according to claim 10, further comprising a knowledge database.

17. The apparatus according to claim 10, further comprising a knowledge editor.

18. The apparatus according to claim 10, further comprising a communications and learning subsystem.

19. The apparatus according to claim 10, wherein said apparatus is worn by said person.

20. The apparatus according to claim 19, wherein said apparatus comprises a headset.

21. The apparatus according to claim 20, wherein said headset comprises said at least one electro-optical device.

22. The apparatus according to claim 20, wherein said headset comprises said vocal representation unit.

23. The apparatus according to claim 20, further comprising a beltset.

24. The apparatus according to claim 23, wherein said beltset comprises said control unit.

25. The apparatus according to claim 24, further comprising manual controls which are detachable from said beltset.

26. The apparatus according to claim 10, further comprising an automatic speech recognition unit for verbal input from said person to said information processing.

27. A method for detecting and identifying at least one object in a field of vision, and notifying the user, comprising the steps of:
    acquiring a plurality of visual images of said at least one object;
    processing said plurality of images and said information; and
    audibly describing to said person said at least one object in said field of vision.

28. The method according to claim 27, and further comprising controlling the adaptive sensitivity of the brightness of illumination.

29. The method according to claim 27, and further comprising range and features extraction.

30. The method according to claim 27, and further comprising analyzing said plurality of visual images into convex polygons.

31. The method according to claim 27, and further comprising 3D object rendering.

32. The method according to claim 27, and further comprising identifying said at least one object.

33. The method according to claim 27, and further comprising incorporation of a knowledge database to interactively help said person identify said at least one object.

34. The method according to claim 27, and further comprising the automated layout of a virtual world image.

35. The method according to claim 27, and further comprising the verbal description of said virtual world image to said person.

36. A system for aiding a user with a visual impairment or visual obstruction, comprising:

    means for sensing time/space characteristics and physical characteristics information about an environment in a field of view;

    meansfor interpreting said time/space characteristics and physical characteristics information and for characterizing (recognition) the environment; and

    audible information delivery device (Means for communicating) for audibly describing to the user the characterization of the environment and said interpretation about the environment.